

## Patent Claims

1. Procedure for the increase of the nutrient-bio-availability of vital substances in a test person that wishes such an increase for improvement of wellbeing, which includes the administration of a nutritiously active quantity of at least one nutritional additive and a quantity of galactomannan and/or glucomannan that increases the bio-availability, **characterized by that** water-soluble or fat-soluble, in the water suspended, vital substances are embedded in a botanical matrix of a polysaccharide individually or as a complex separately and always separated from each other in their function, whereby the granulate obtained from this swells when taken and the embedded active substances are slowly released for resorption by the human or animal digestive system.
2. Procedure according to Claim 1, **characterized by that** HGH (source somatotropin) is embedded in galactomannan and/or glucomannan.
3. Procedure according to Claim 1 and/or 2, **characterized by that** the mentioned nutritional material comprises at least one material that is selected from a group that consists of herbal extracts, water-soluble vitamins, fat-soluble vitamins, amino acids, fatty acids, minerals and antioxidants and hormones.
4. Procedure according to one of the preceding Claims, **characterized by that** the mentioned herbal extract can be selected from a group that consists of ashwaganda, boswellin, capsaicin, curcumin, milk thistle extract, sceletium, and ayurvedic herbal extracts.
5. Procedure according to one of the preceding Claims, characterized by, that the mentioned water-soluble vitamins are selected from a group that

consists of vitamin B1, vitamin B2, niacin, vitamin B6, vitamin B12, folacin, inositol, pantothenic acid, and vitamin C, whereby the water-soluble vitamins are selected from a group that consists of vitamin A, vitamin D, vitamin E, and biotin.

6. Procedure according to one of the preceding Claims, characterized by that the mentioned water-soluble vitamins are selected from a group that is selected from vitamin B1, vitamin B2, niacin, vitamin B6, vitamin B12, folacin, inositol, pantothenic acid, and vitamin C, whereby the fat-soluble vitamins are selected from a group that consists of vitamin A, vitamin D, vitamin E, and biotin.
7. Procedure according to one of the preceding Claims, **characterized by that** the mentioned antioxidants are selected from a group that consists of mixed carotenoids, the co-enzyme Q10, lycopenes, lutein, zeaxanthin, bioflavonoids, germanium, selenium, zinc, vitamin A, vitamin C, und vitamin E, alpha-lipoic, grape sperm phytosome, extract from green tea and extract from pine bark.
8. Procedure according to one of the preceding Claims, **characterized by that** the mentioned amino acids are selected from a group that consists of N-acetyl-cysteine, acetyl-L carnitine, L-arginine HCL, L-carnitine, endorphenyl D-phenylalanine, GABA, L-glutamine, L-glycine, L-histidine, L-lysin, L-methinin, L- and DL-phenylalanine, proline, taurine, 5-hydroxy-tryptophan, L-tyrosin.
9. Procedure according to one of the preceding Claims, characterized by that the mentioned minerals are selected from a group that consists of calcium, chrome, copper, germanium, lead, iron, magnesium, manganese, calcium [Tr.- calcium appears twice in the source], selenium, silicon, vanadium, zinc.

10. Application of polysaccharides, such as galactomannans, glucomannans, and of similar kinds, for the infiltration of active substances according to one or several of the Claims 1 to 9, characterized by that the vital substances are embedded in a botanical matrix individually or as a complex separately and always separated from each other in their function.
11. Application according to Claim 19, characterized by that the vital substances are vitamins, minerals, trace elements, plant content substances, amino acids, coenzymes, and other metabolically active substances.
12. Application according to one of the Claims 10 or 11, characterized by that the active substance is dissolved in water or, in the case of a fat-soluble active substance, is suspended in water  
the solution or suspension is slowly added to and mixed with the purified polysaccharide,  
the emerging gel is dried by an economizing procedure,  
the clog that forms from the drying fragments and is filtered for the desired grain size (preferably 0.2 – 2 mm).
13. Polysaccharide according to one of the Claims 10 to 12, characterized by that a granulate (1) contains a multitude of granulate particles 2, 3, whereby in a first granulate particle a first active substance and in a second granulate particle a second active substance is embedded.
14. Polysaccharide according to Claim 13, characterized by that the granulate particles (2; 3) are separated in function and do not interact with each other in an undesired way.
15. Polysaccharide according to one of the Claims 10 to 14, characterized by

that the granulate particle (2, 3) are build from a multitude of grid or grate shaped polysaccharide molecules (5), which form a lattice pattern (4), whereby in the interstices (6) of the lattice pattern (4) the ions of the active substance (7) are bonded through a coordinate bond in the lattice pattern (4) of the polysaccharide molecules (5).

16. Polysaccharide according to one of the Claims 10 to 15, **characterized by that** polysaccharide molecules (5) contain a surrounding H<sub>2</sub>O surface film, which completely encloses and shields the thread-like structure.
17. Polysaccharide according to one of the Claims 10 to 16, **characterized by that** the thread-like polysaccharide molecules (5) contain adsorbed OH groups and that the active substance ions (7) in the interstice (6) between the molecules (5) are bonded by a coordinate bond.
18. Polysaccharide according to one of the Claims 10 to 17, **characterized by that** because of the penetration of water or intestinal fluids in the interstices (6) of the molecules (5) these move two-dimensionally opposite to each other (in the directions of the arrows 10, 11).
19. Polysaccharide according to one of the Claims 10 to 18, **characterized by that** the active substance exhibits a delayed release, whereby the single threads are in removed layers by the penetrating water or the intestinal fluids, whereby the grating structure is removed in layers, and releases the active substance ions (7) that are adsorbed in the interstices (6).
20. Polysaccharide according to one of the Claims 10 to 19, **characterized by that** the thread-like molecules are surrounded by a hydrate coat (H<sub>2</sub>O surface film 9).

[Tr.- Handwritten on this page is: "Corrected version." In the following the source contained corrections, deletions, and additions. Also, underscores have been added in some places to indicate an addition or to emphasize– the old (deleted) phrases/text is shown with strike through.]

### Patent Claims

1. Procedure for the increase of the nutrient-bio-availability of vital substances in a test person that wishes such an increase for improvement of wellbeing, which includes the administration of a nutritiously active quantity of at least one nutritional additive and a quantity of galactomannan and/or glucomannan that increases the bio-availability, **characterized by that** water-soluble or fat-soluble, in the water suspended, vital substances are embedded in a botanical matrix of a polysaccharide individually or as a complex separately and always separated from each other in their function, whereby the from this obtained granulate swells when taken and the embedded active substances are slowly released for resorption by the human or animal digestive system.  
(Source: <sup>(1)</sup> see description page 2, line 14;  
<sup>(2)</sup> see description page 4, line 10;  
<sup>(3)</sup> see characteristics of the original Claim 10;  
<sup>(4)</sup> see description page 5, line 5 to 7)
2. Procedure according to Claim 1, **characterized by that** HGH (source somatotropin) is embedded in galactomannan and/or glucomannan.
3. Procedure according to Claim 1 and/or 2, **characterized by that** the mentioned nutritional material comprises at least one material that is selected from a group that consists of that consists of herbal extracts, water-soluble vitamins, fat-soluble vitamins, amino acids, ~~fat~~ fatty acids,

minerals and antioxidants and hormones.

4. Procedure according to one of the preceding Claims, **characterized by that** the mentioned herbal extract is selected from a group that consists of ashwaganda, boswellin, capsaicin, curcumin, ~~milk~~ holy thistle extract, sceletium, and ayurvedic herbal extracts.
5. Procedure according to one of the preceding Claims, **characterized by that** the mentioned water-soluble vitamins are selected from a group that consists of vitamin B1, vitamin B2, niacin, vitamin B6, vitamin B12, folacin, inositol, vitamin B5, and vitamin C, whereby the fat-soluble vitamins are selected from a group that consists of vitamin A, vitamin D, vitamin E, and biotin.
6. Procedure according to one of the preceding Claims, **characterized by that** the mentioned water-soluble vitamins are selected from a group that consists of vitamin B1, vitamin B2, niacin, vitamin B6, vitamin B12, folacin, inositol, pantothenic acid, and vitamin C, whereby the fat-soluble vitamins are selected from a group that consists of vitamin A, vitamin D, vitamin E, and biotin.
7. Procedure according to one of the preceding Claims, **characterized by that** the mentioned antioxidants are selected from a group that consists of mixed carotenoids, the co-enzyme Q10, lycopenes, lutein, zeaxanthin, bioflavonoids, germanium, selenium, zinc, vitamin A, vitamin C, und vitamin E, alpha-Lipoic, grape sperm phytosome, extract from green tea and extract from pine bark.
8. [Tr.- the source does not contain the number 8, it has been added in the translation]  
Procedure according to one of the preceding Claims, **characterized by that** the mentioned amino acids are selected from a group that consists of N-acetyl-cysteine, acetyl-L carnitine, L-arginine HCL, L-carnitine, endorphenyl D-phenylalanine, GABA, L-glutamine, L-glycine, L-histidine, L-lysin, L-methinin, L- and

DL-phenylalanine, proline, taurine, 5-hydroxy-tryptophan, L-tyrosin.

~~8. Procedure according to one of the preceding Claims, characterized by, that the mentioned fatty acids are selected from a group that consists of "cetylated" fatty acids.~~

9. Procedure according to one of the preceding Claims, **characterized by that** the mentioned minerals are selected from a group that consists of calcium, chrome, copper, germanium, lead, iron, magnesium, manganese, ~~potassium~~ calcium [Tr.- calcium appears twice in the source], selenium, ~~silicone~~-silicon, vanadium, zinc.

10. Application of polysaccharides, such as galactomannans, glucomannans, and of a similar kind, for the infiltration of active substances according to one or several of the Claims 1 to 9, **characterized by that** the vital substances are embedded in a botanical matrix individually or as a complex separately and always separated from each other in their function [Tr.- in the source the word "*Funktionsgetrennt*" – separated in function – was change to "*funktionsgetrennt*"] .

~~Application of polysaccharides, such as galactomannans, glucomannans, and of a similar kind, for the infiltration of active substances in human or animal metabolism characterized by that the vital substances are embedded in a botanical matrix of the polysaccharides individually or as a complex separately and always separated from each other in their function.~~

12.11. Application according to Claim 10, **characterized by that** the vital substances are vitamins, minerals, trace elements, plant content substances, amino acids, coenzymes, and other metabolically active substances.

13.12. Application according to one of the Claims 10 or 11, **characterized by that** the active substance is dissolved in water or, in the case of fat-soluble active substance, is suspended in water, the solution or suspension is slowly added to and mixed with the purified

polysaccharide,  
the emerging gel is dried by an economizing procedure,  
the clog that forms from the drying fragments and is filtered for the desired grain size (preferably 0.2 – 2 mm).

14.13. Polysaccharide according to one of the Claims 104 to 142, **characterized by that** a granulate (1) ~~consists of~~ contains a multitude of granulate particles 2, 3, whereby in a first granulate particle a first active substance and in a second granulate particle a second active substance is embedded.

15.14. Polysaccharide according to Claim 13, **characterized by that** the granulate particle (2, 3) are separated in function and do not ~~mix or~~ interact with each other in an undesired way.

16.15. Polysaccharide according to one of the Claims 10 to 164, **characterized by that** the granulate particle (2, 3) ~~are build from~~ contains a multitude of grid or grate shaped polysaccharide molecules 5, which form a lattice pattern (4), ~~and that whereby~~ in the interstices (6) of the lattice pattern (4) the ions of the active substance (7) are bonded through a coordinate bond in the lattice pattern (4) of the polysaccharide molecules (5).

17.16. Polysaccharide according to one of the Claims 140 to 175, **characterized by that** polysaccharide molecules (5) ~~are surrounded by~~ contain a surrounding H<sub>2</sub>O surface film, that completely encloses and shields the thread-like structure.

18.17. Polysaccharide according to one of the Claims 140 to 186, **characterized by that** ~~on~~ the thread-like polysaccharide molecules (5) contain adsorbed OH groups ~~are adsorbed~~ and that ions 7 of the active substance in the interstice (6) between the molecules (5) are bonded by a coordinate bond.

19.18. Polysaccharide according to one of the Claims 140 to 197, **characterized by that** ~~during because of~~ the penetration of water or intestinal fluids in the interstices (6) of the molecules (5) these move ~~themselves~~ two dimensionally opposite to each other



(in the directions of the arrows 10, 11).

20.19. Polysaccharide according to one of the Claims 140 to 2018, **characterized by that** the ~~delayed release of the~~ active substance exhibits a delayed release ~~ensues by means of, whereby~~ the single threads are in layers removed by the penetrating water or the intestinal fluids ~~and thereby also in layers~~, whereby the grating structure is removed in layers, and in order to thus release releases the active substance ions (7) that are adsorbed in the interstices (6).

21.20. Polysaccharide according to one of the Claims 140 to 219, **characterized by that** the thread-like molecules are surrounded by a hydrate coat (H<sub>2</sub>O surface film 9).